



GEOLOGIC FAULT HAZARD SUMMARY

Sonoma County – Chanate Campus

3325 Chanate Drive
Santa Rosa, CA

ZFA Project: 14565.03

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Prepared For:
County of Sonoma
Santa Rosa, CA

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The site proposed for development is located in the Alquist-Priolo (AP) Special Study Zone per the California Division of Mines and Geology (CDMG) Santa Rosa Quadrangle Map published in 1983. The AP act's main purpose is to prevent the construction of buildings for human occupancy on the surface trace of active faults. The AP act requires the following for new construction on sites located within the special study zone:

"Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet)."

The City of Santa Rosa adopted specific requirements generally matching the AP Act above which can be found on the City's website: <http://ci.santa-rosa.ca.us/departments/communitydev/building/permits/specialprojects/Pages/AlquistPriolo.aspx>

Multiple Geologic Hazard Evaluations and Geotechnical Reports have been performed for various areas of the site. Additional information may be obtained from California Department of Conservation – California Geological Survey (CGS). The exact fault locations at the site and in the AP zone are not clearly determined by the reports due to differing data and conclusions as evolved over time. Some reports stated that ruptures may occur at many places within the weak upper materials in the wide fault zone rather than along a few well defined narrow traces. Some reports note that some faults were not active because they didn't project through bedrock material that was less than 11,000 years old. See Attachment A: Potential Seismic Fault Location Map Based on Historical Studies for compiled mapped potential fault locations as reviewed.

Geologic Hazard Evaluations and Geotechnical Reports were provided and reviewed¹ for the "Seismic Evaluation of the Chanate Hospital Buildings" performed by ZFA for the County of Sonoma and finalized in February 2015. Based on the information contained in the reviewed geotechnical reports and the CDMG maps, the intersection of the Rodgers Creek Fault, to the south, and the Healdsburg Fault, to the north, is projected to occur in the area of the Chanate Campus site. While both faults are clearly defined and located outside of the Santa Rosa area on AP maps, the fault location at the campus site is inferred.

In the latest geologic hazard report available (2002 Gilpin Geosciences), the consultant reviewed all of the noted documents below plus several additional documents not available to ZFA. No additional trenching was completed at this time. Gilpin Geosciences Report summarized the findings:

"Based on the preponderance of lineaments (*a lineament is a feature in a landscape which is an expression of an underlying geologic structure such as a fault*) and other fault-related features observed by Gilpin Geosciences and others in the site vicinity, along with the lack of clear resolution of differing interpretations of onsite and offsite geologic structures, we conservatively judge the overall potential for fault rupture at the site to be high. There may exist areas within the site that are sufficiently free of active faults so as to allow future construction of structures for human occupancy."

The 2002 Rutherford & Chekene report (which references the Gilpin report) included a similar conclusion regarding the complexity of the fault structure in the site and the potential for fault rupture that triggers movement on discontinuous subsidiary structures and sympathetic small movements on many fractures across the entire fault zone.

Four of the five geotechnical engineers that provided information for the site concluded there were likely fault traces or fault related features extending through at least some portion of the site. The reviewed

documents indicate that surface fault rupture and surface displacement at the site are potentially anticipated; however, this displacement may occur across a complex series of faults. There appears to be areas of the site where fault traces may be less likely to occur based on the fault locations provided.

It is likely that portions of the area within the AP Study Zone are developable; but some fault traces could limit potential building locations. Based solely on the information available to ZFA, there do not appear to be known fault rupture conditions outside of the AP Special Study Zone.

A full survey of CGS information for the site and comprehensive current geotechnical and geologic hazard study are recommended for the site performed and documented by a well-qualified the geotechnical consultant. The City of Santa Rosa may require a peer review process due to the geologic complexity of the site as part of the review and approval process.

1. Five different geotechnical Engineers provided reports that were reviewed including: Cooper Clark & Associates - 1978 geologic hazard report, Rutherford & Chekene Consulting Engineers (R&C) - 1986 geologic hazard report, Harding and Lawson - 1986 Family Practice Clinic geotechnical report, R&C 1987 - Emergency Room Expansion geotechnical report, R&C – 1988 Family Practice Clinic Geotechnical report, R&C – 1988 Power Plant geotechnical report, R&C – 1990 Medical Office Building geotechnical report, Herzog – 1991 & 1992 review letters of R&C Medical Office Building geotechnical report, R&C 1991 & 1992 responses to Herzog review letters, R&C 2002 Geologic and Seismic Hazard Evaluation and geotechnical study and the geologic hazard portion of this report was performed by Gilpin Geosciences (appendix to R&C 2002 report).

